

E. Eng. Lib.  
Wahs

# THE METAL INDUSTRY

WITH WHICH ARE INCORPORATED  
THE ALUMINUM WORLD: COPPER AND BRASS: THE BRASS FOUNDER AND FINISHER  
ELECTRO-PLATERS REVIEW

## Volume 25

JANUARY—DECEMBER, 1927

THE METAL INDUSTRY PUBLISHING COMPANY  
NEW YORK

ARTICLES MARKED (\*) ARE ILLUSTRATED

\*1926—Outlook for 1927, Progress of Metals in. 19  
1926, Production of Aluminum in. 201  
1926, Review of the Silver Market for. 72  
\*1927, Progress of Metals in 1926—Outlook for 19

### ARTICLES

#### A

Acid Green. 422  
Age, The Bronze. 24  
Age-Hardening Tests with Elektron Alloys. 504  
\*Airplane, All Metal. 193  
\*Airplane Flights, Metals in Trans-Atlantic. 243  
\*All Metal Airplane. 193  
Alloy, Drop Hammer. 323  
Alloy, Silver. 72  
Alloy, Silver and Cadmium. 245  
Alloys, Age-Hardening Tests with Elektron. 504  
Alloys and Their Castings, Aluminum. 306, 417  
Alloys, Die Casting. 13  
\*Alloys in the Electric Furnace, Annealing of Metals and. 55  
Alloys, Machining Magnesium Aluminum. 109  
\*Alloys, Melting Nickel. 280  
\*Alloys of Precious Metals and the High Frequency Induction Furnace. 141, 488  
\*Alloys, Shrinkage Cavities in Cast. 488  
\*Alloys, Smelting Secondary Aluminum and Aluminum. 281, 452  
Alloys, Structural Aluminum. 499  
Aluminum. 20  
Aluminum Alloys and Their Castings. 306, 417  
Aluminum Alloys, Machining Magnesium. 109  
\*Aluminum Alloys, Smelting Secondary Aluminum and. 281, 452  
Aluminum Alloys, Structural. 499  
\*Aluminum and Aluminum Alloys, Smelting Secondary. 281, 452  
Aluminum Bronzes, Nickel. 149  
Aluminum Cans. 416  
Aluminum Dip, Bright. 459  
Aluminum, Hard Spots in. 419  
Aluminum for Washing Machines. 499  
Aluminum in 1926, Production of. 201  
Aluminum, Lubricant for. 330  
\*Aluminum Pistons in Composition Molds, Making. 323  
Aluminum Pistons, Merits. 296  
Aluminum Protects Duralumin. 330  
Aluminum, The "Discovery" of. 237  
\*American Electro-Platers' Society Convention. 285  
American Foundrymen's Association Meeting. 202  
\*American Foundrymen's Convention. 277

\*Angle on Threading Chasers. 250  
\*Annealing of Metals and Alloys in the Electric Furnace. 55  
\*Annual Meeting of the Institute of Metals Division. 99  
Antique Finishes on Copper and Brass. 422  
Association Meeting, American Foundrymen's. 202  
\*Atlantic Airplane Flights, Metals in Trans. 243  
Automobile, Metals and the. 420  
\*Automobile Parts, Racking. 236  
\*Automobile Products, Japanning. 461

#### B

\*Baking with Electric Heat, Core. 103, 191  
\*Barrel for Cyanide Baths, Plating. 110  
Barrel Japanning. 239  
\*Baths, Plating Barrel for Cyanide. 110  
\*Bearings, Centrifugal Casting of. 326  
Billets for Extrusion, Brass. 66  
\*Bird Fountain, Roosevelt Memorial. 424  
Black Finish for Iron and Steel, A New Rust-Proof. 154  
Black on Brass. 421  
Black on Silver. 157  
Black on Steel, Brown, Blue or. 235  
Blue or Black on Steel, Brown. 235  
\*Boat Horn, Venetian. 374  
Boxes, Cleaning Core. 62  
Brass, Antique Finishes on Copper and. 422  
Brass Billets for Extrusion. 66  
Brass, Black on. 421  
\*Brass Casting, Leaky. 106  
\*Brass Casting, Spongy. 13  
Brass Castings, Dipping, Pickling and. 114  
\*Brass Extrusion Press, Welding a. 338  
Brass Forging. 108  
\*Brass Forging. 321  
Brass for Saxophones. 190  
\*Brass Foundry, A Large and Unusual. 1  
\*Brass Foundry Practice, The Fundamentals of. 6, 63, 105, 146, 194, 327, 369, 455, 493  
Brass, Heat Treatment and Hardness of. 90, 40, 158  
Brass, Oxidized. 190  
Brass Parts, Cleaning. 421  
\*Brass Pipe Sales. 330  
Brass Plate, Soldering Wire to. 151  
Brass Specifications, British Naval. 410  
Brass, Taps for. 381  
Brized Tubing, Making. 151  
Brizing. 419  
Brizing, Dip. 374  
Bricks in Metallurgical Furnaces, Silica Mag- nesite. 489

Bright Aluminum Dip. 459  
Bright Cadmium Plate. 379  
Brine Resisting Solder. 153  
Britannia, Casting. 454  
Britannia Metal, Soldering. 156  
British Institute of Metals Meeting. 152  
British Institute of Metals Meeting. 414  
British Naval Brass Specifications. 410  
Bronze Age, The. 24  
\*Bronze Casting, Large. 193  
Bronze Finish, Statuary. 69  
Bronze on Copper. 377  
\*Bronze Peace Memorial. 24  
Bronze, Phosphor. 419  
Bronze Specifications, Manganese. 449  
Bronze, Weathered. 462  
Bronzes, Nickel Aluminum. 149  
Bronzes, The Machining of Special. 249  
\*Brooker, Charles Frederick. 23  
Brown, Blue or Black on Steel. 235  
Buffing Compositions. 70  
Burnishing Gold. 381  
Business? What is Wrong with the Foundry. 65

#### C

Cadmium Alloy, Silver and. 245  
Cadmium Plate, Bright. 379  
Cadmium Salts in Nickel Plating. 381  
Cadmium Solution. 377  
\*Candlesticks of Silver. 10  
Cans, Aluminum. 416  
\*Cast Alloys, Shrinkage Cavities in. 488  
Cast Iron, Hot Tinning. 235  
Cast Iron, Soldering. 381  
Casting Alloys, Die. 13  
Casting Britannia. 454  
\*Casting, Large Bronze. 193  
\*Casting, Leaky Brass. 106  
\*Casting of Bearings, Centrifugal. 326  
Casting of Metals, Still. 144  
Casting Problems. 118  
Casting Soft Metal. 448  
\*Casting, Spongy Brass. 13  
Casting Weight Variation. 419  
Casting White Gold. 283  
Castings, Aluminum Alloys and Their. 306, 417  
Castings, Dipping, Pickling and Cleansing Brass. 114  
Castings, Filler for Die. 421  
Castings, Satin Finish on Nickel Plated Die. 157  
Cathodic Disintegration as a method of Etching Specimens for Metallography. 504  
\*Cavities in Cast Alloys, Shrinkage. 488  
\*Centrifugal Casting of Bearings. 326  
\*Charles Frederick Brooker. 23





|  |          |  |         |   |          |
|--|----------|--|---------|---|----------|
| *Methods of Handling Gold and Platinum Wastes.....           | 240, 371 | Protecting Iron Pots.....                              | 326     | Structure of Electrodeposited Chromium, Note on the Crystal.....  | 294      |
| *Microcharacter Measures Hardness, The.....                  | 248      | Protective Clothing for the Foundry Worker.....        | 424     | *Supplies, Plating Racks for Plumbing.....  | 334      |
| Mixture, Oxidized High Lead.....                             | 190      | Protects Duralumin, Aluminum.....                      | 330     |   |          |
| Molding Losses, The Reduction of.....                        | 246      | Pure Metals.....                                       | 5       |   |          |
| *Molds, Making Aluminum Pistons in Composition.....          | 323      |  |         | <b>T</b>  |          |
| *Molds, Water-Cooled.....                                    | 335      |  |         | *Tanks, Model Metal in Dye.....   | 111      |
| *Monel Metal in Dye Tanks.....                               | 111      |  |         | Tapping, Lubricant for.....   | 197      |
| *Munning Company, Organization of the Hanson Van Winkle..... | 382      |  |         | Taps for Brass.....   | 381      |
|  |          | <b>R</b>   |         | Taps, Tempering.....  | 454      |
|  |          | *Racking Automobile Parts.....                         | 236     | Tempering Taps.....   | 454      |
|  |          | *Racking Hardware.....                                 | 380     | Tentative Standard Classification for Old Metals, New.....  | 463      |
|  |          | *Racking Kitchen Products.....                         | 423     | Tested by Reflected Light, Metal Finish.....  | 71       |
|  |          | *Racks for Plumbing Supplies, Plating.....             | 334     | Testing Materials Meeting.....  | 293      |
|  |          | *Razors, Plating.....                                  | 196     | Testing Materials Society Meeting.....  | 150      |
|  |          | *Razors, Electro-Plating Safety.....                   | 405     | *Testing Plated Coatings.....   | 336      |
|  |          | Radio Sets, Metals in.....                             | 233     | Tests with Elektron Alloys, Age-Hardening.....  | 504      |
|  |          | Reamers, Straightening.....                            | 414     | Theory of Metallic Hardening, General.....  | 149      |
|  |          | Reclaiming Chips.....                                  | 66      | Thin-Walled Tubing, Electro-Deposited.....  | 7        |
|  |          | *Reclaiming Plant, The Ford Lead.....                  | 447     | *Threading Chasers, Anglo on.....   | 250      |
|  |          | Reduction of Molding Losses, The.....                  | 246     | Threads, Cutting.....   | 250      |
|  |          | *Refining of Remelted Zinc, The Production and.....    | 60, 107 | Tin and Lead.....   | 19       |
|  |          | Refining Scrap.....                                    | 326     | Tin, Electro Plating.....   | 18       |
|  |          | *Refining Works, Irvington Smelting and.....           | 153     | Tin Increases in United States, Consumption of.....   | 158      |
|  |          | Refined Zinc.....                                      | 193     | Tin in the United States.....   | 295      |
|  |          | Reflected Light, Metal Finish Tested by.....           | 71      | *Tin, Smelting Secondary.....   | 363, 411 |
|  |          | Refrigerators, Electric.....                           | 413     | Tinning Cast Iron, Hot.....   | 233      |
|  |          | *Remelted Zinc, The Production and Refining of.....    | 60, 107 | *Toledo Convention, Electro-Platers at the.....   | 339      |
|  |          | Resisting Solder, Brine.....                           | 153     | *Toledo, Electro-Platers' Convention in.....  | 227      |
|  |          | Reverse Copper Company, The.....                       | 459     | *Tongs, Making a Form for Crucible.....   | 106      |
|  |          | Review of the Silver Market for 1926.....              | 72      | Top Metal, Platinum.....  | 330      |
|  |          | *Roman Cups, Greek and.....                            | 495     | Trade Customs, Foundry.....   | 340      |
|  |          | *Room Layout, An Efficient Plating.....                | 68      | Trades, Waste and the Metal.....  | 12       |
|  |          | *Roosevelt Memorial Bird Fountain.....                 | 424     | *Trans-Atlantic Airplane Flights, Metals in.....  | 243      |
|  |          | Royal Copper.....                                      | 421     | Treatment and Hardness of 60:40 Brass, Heat.....  | 158      |
|  |          | Rust, Covering.....                                    | 421     | Troubles, Silver Solution.....  | 288      |
|  |          | Rust-Proof Black Finish for Iron and Steel, A New..... | 154     | *Tubes Electrolytically, Manufacturing Seamless Copper.....   | 487      |
|  |          |  |         | *Tubes, Extruding Copper.....   | 16       |
|  |          |  |         | Tubing, Electro-Deposited Thin-Walled.....  | 7        |
|  |          |  |         | Tubing, Making Brazed.....  | 151      |
|  |          |  |         | Twenty-five Years of Electroplating.....  | 232      |
|  |          |  |         |   |          |
|  |          |  |         | <b>U</b>  |          |
|  |          |  |         | United States, Consumption of Tin Increases in.....   | 158      |
|  |          |  |         | United States, Tin in the.....  | 295      |
|  |          |  |         | *Unusual Brass Foundry, A Large and.....  | 1        |
|  |          |  |         | Use of Graphite Crucibles, The.....   | 324      |
|  |          |  |         |   |          |
|  |          |  |         | <b>V</b>  |          |
|  |          |  |         | *Van Winkle-Munning Company, Organization of the Hanson.....  | 382      |
|  |          |  |         | Variation, Casting Weight.....  | 419      |
|  |          |  |         | *Venetian Boat Horn.....  | 374      |
|  |          |  |         |   |          |
|  |          |  |         | <b>W</b>  |          |
|  |          |  |         | Walled Tubing, Electro-Deposited Thin.....  | 7        |
|  |          |  |         | Washing Machines, Aluminum for.....   | 490      |
|  |          |  |         | Waste and the Metal Trades.....   | 12       |
|  |          |  |         | Waste Materials, Classification of.....   | 118      |
|  |          |  |         | *Wastes, Methods of Handling Gold and Platinum.....   | 240, 371 |
|  |          |  |         | *Water-cooled Molds.....  | 335      |
|  |          |  |         | Weathered Bronze.....   | 462      |
|  |          |  |         | Week, National Metal.....   | 406      |
|  |          |  |         | Weight Variation, Casting.....  | 419      |
|  |          |  |         | *Welding a Brass Extrusion Press.....   | 338      |
|  |          |  |         | *Welding Flux.....  | 3        |
|  |          |  |         | *Welding Job, An Interesting.....   | 109      |
|  |          |  |         | What Is Wrong With the Foundry Business?.....   | 65       |
|  |          |  |         | White Gold, Casting.....  | 283      |
|  |          |  |         | White Gold, Stripping.....  | 459      |
|  |          |  |         | White Jewelry Metal.....  | 237      |
|  |          |  |         | White Metal, Nickel on.....   | 377      |
|  |          |  |         | *Winkle-Munning Company, Organization of the Hanson Van.....  | 382      |
|  |          |  |         | Wire, Cleaning.....   | 247      |
|  |          |  |         | Wire to Brass Plate, Soldering.....   | 151      |
|  |          |  |         | Wood, Metal on Plaster and.....   | 69       |
|  |          |  |         | *Work, Decorated Metal.....   | 24       |
|  |          |  |         | Worker, Protective Clothing for the Foundry.....  | 424      |
|  |          |  |         | *Workmanship of Drinking Horns, The Design and.....   | 328      |
|  |          |  |         | *Works, Irvington Smelting and Refining.....  | 183      |
|  |          |  |         | Wrong With the Foundry Business, What Is.....   | 65       |
|  |          |  |         |   |          |
|  |          |  |         | <b>Y</b>  |          |
|  |          |  |         | Years of Electroplating, Twenty-five.....   | 232      |
|  |          |  |         |   |          |
|  |          |  |         | <b>Z</b>  |          |
|  |          |  |         | *Zinc.....  | 20       |
|  |          |  |         | Zinc, Refining.....   | 193      |
|  |          |  |         | *Zinc, The Production and Refining of Remelted.....   | 60, 107  |
|  |          |  |         |   |          |
|  |          |  |         | <b>AUTHORS</b>  |          |
|  |          |  |         | <b>A</b>  |          |
|  |          |  |         | Abate, W. L., Dipping, Pickling and Cleansing Brass Castings.....   | 114      |
|  |          |  |         | Abate, W. L., Soldering Flux.....   | 204      |
|  |          |  |         | Aluminum Man, Aluminum.....   | 20       |
|  |          |  |         | Anderson, Dr. Robert J., *Smelting Secondary Aluminum and Aluminum Alloys.....                              | 281, 452 |
|  |          |  |         |   |          |
|  |          |  |         | <b>B</b>  |          |
|  |          |  |         | Baldwin, Andrew E., Chromium Plating Industry to Receive Benefit of Organized Research and Development..... | 472      |
|  |          |  |         | Bannard, Walter, Aluminum Alloys and Their Castings.....  | 366, 417 |
|  |          |  |         | Barrows, W. P., Spotting Out.....   | 498      |
|  |          |  |         | Belke, William E., *Plating Racks.....  | 198      |
|  |          |  |         | Belke, William E., *Plating Racks for Plumbing Supplies.....  | 334      |
|  |          |  |         | Belke, Wm. E., *Racking Automobile Parts.....   | 236      |
|  |          |  |         | Belke, William E., *Racking Hardware.....   | 380      |
|  |          |  |         | Belke, Wm. E., *Racking Kitchen Products.....   | 423      |
|  |          |  |         | Berger, O. J., *Brass Forging.....  | 321      |
|  |          |  |         | Blackall, A. C., Aluminum Cans.....   | 416      |

|   |          |
|---|----------|
| Blackall, A. C., British Naval Brass Specifications   | 410      |
| Blackall, A. C., Engineering Specifications of Metals   | 296      |
| Blair, P. W., *Angle on Threading Chasers   | 250      |
| Blair, Peter W., Brass Forging  | 108      |
| Blair, P. W., Brazing   | 416      |
| Blair, P. W., Cutting Threads   | 250      |
| Blair, P. W., Dip Brazing   | 374      |
| Blair, P. W., Lubricant for Aluminum  | 330      |
| Blair, P. W., Lubricant for Tapping   | 197      |
| Blair, P. W., Machining Magnesium Aluminum Alloys   | 100      |
| Blair, P. W., Soldering Britannia Metal   | 156      |
| Blair, P. W., Soldering Cast Iron   | 381      |
| Blair, P. W., Soldering Silver to Nickel Silver   | 204      |
| Blair, P. W., Soldering Wire to Brass Plate   | 151      |
| Blair, P. W., Straightening Reamers   | 416      |
| Blair, P. W., Taps for Brass  | 381      |
| Blair, P. W., Tempering Taps  | 454      |
| Blair, P. W., The Machining of Special Bronzes  | 249      |
| Blair, P. W., Welding Flux  | 3        |
| Blum, Dr. Wm., *Chromium Plating  | 14       |
| Boone, Wallace W., *The Microcharacter Measures Hardness  | 248      |
| Booth, Harold C., Barrel Japanning  | 239      |
| Braithwaite, W. E., Waste and the Metal Trades  | 12       |
| Fregman, Adolph, *Irvington Smelting and Refining Works   | 183      |
| <b>C</b>  |          |
| Cherry, R. M., *Annealing of Metals and Alloys in the Electric Furnace                          | 55       |
| Clark, Frances Hurd, Heat Treatment and Hardness of 60-40 Brass                                 | 158      |
| Clarke, R. R., *Fundamentals of Brass Foundry Practice, The 6, 63, 105, 146, 194, 327, 309, 455 | 403      |
| Cornell, Sidney, Electro-Deposited Thin-Walled Tubing   | 7        |
| Cunningham, C. G., Platers' Itch  | 199      |
| <b>D</b>  |          |
| Dean, R. S., General Theory of Metallic Hardening   | 149      |
| Deutsch, Zola G., *The Microcharacter Measures Hardness   | 248      |
| Duncan, Justin A., *Melting Nickel Alloys   | 280      |
| Dunlop, J. P., Secondary Metals   | 115      |
| Durville, P. H. G., Still Casting of Metals   | 144      |
| <b>E</b>  |          |
| Edwards, Junius D., The "Discovery" of Aluminum   | 237      |
| Elchstaedt, T. C., Driving a Plating Solution   | 231      |
| <b>F</b>  |          |
| Furness, J. W., Consumption of Tin Increases in United States                                   | 158      |
| <b>G</b>  |          |
| Gilliams Service, *All Metal Airplane   | 193      |
| Gleason, E. D., Foundry Floors  | 410      |
| Gleason, Edward D., *Making Aluminum Pistons in Composition Molds                               | 323      |
| Gleason, E. D., Nickel Aluminum Bronzes   | 149      |
| Gleason, E. D., Silver Alloy  | 72       |
| Gleason, Edward D., Silver and Cadmium Alloy  | 245      |
| Graham, A. Kenneth, Hydrogen Ions in Plating Solutions  | 198      |
| Graham, A. Kenneth, *Spotting Out   | 290      |
| Greene, R. A., The Reduction of Molding Losses  | 246      |
| Greenwald, Willard F., *New Chromium Plating Plant  | 457      |
| Groez, J. L., General Theory of Metallic Hardening  | 149      |
| <b>H</b>  |          |
| Haas, Joseph, Acid Green  | 422      |
| Haas, Joseph, Black on Brass  | 421      |
| Haas, Joseph, Bright Aluminum Dip   | 459      |
| Haas, Joseph, Bright Cadmium Plate  | 379      |
| Haas, Joseph, Bronze on Copper  | 377      |
| Haas, Joseph, Burnishing Gold   | 381      |
| Haas, Joseph, Cleaning Brass Parts  | 421      |
| Haas, Joseph, Cleaning Composition Metal  | 381      |
| Haas, Jos., Covering Rust   | 421      |
| Haas, Joseph, Nickel on White Metal   | 377      |
| Haas, Joseph, Nickel Solutions  | 462      |
| Haas, Joseph, Old English Finish  | 377      |
| Haas, Jos., Royal Copper  | 421      |
| Haas, Joseph, Stripping Copper  | 462      |
| Haas, Joseph, Stripping White Gold  | 459      |
| Haas, Joseph, Weathered Bronze  | 462      |
| Hamill, R. F., The Revere Copper Company  | 459      |
| Harn, O. C., Tin and Lead   | 19       |
| Hogaboom, George B., Twenty-Five Years of Electroplating  | 232      |
| Hoke, C. M., *Methods of Handling Gold and Platinum Wastes                                      | 240, 371 |
| Hoke, C. M., Precious Metals  | 22       |
| Huntley, F. J., *American Electro-Platers' Society Convention                                   | 285      |
| Huntley, F. J., *Electro-Platers' Convention in Toledo  | 227      |
| Huntley, F. J., *The Ford Lead Reclaiming Plant   | 447      |
| <b>J</b>  |          |
| Jewelry Metallurgist, Casting White Gold  | 283      |
| Jewelry Metallurgist, Platinum Top Metal  | 330      |
| Jewelry Metallurgist, White Jewelry Metal   | 237      |
| Johnston, T., Electrodeposition of Iron   | 234      |
| Jones, Jesse L., Aluminum for Washing Machines  | 499      |

|   |          |
|---|----------|
| Jones, Jesse L., Brine Resisting Solder   | 153      |
| Jones, Jesse L., Die Casting Alloys   | 13       |
| Jones, Jesse L., Expansion of Metals  | 153      |
| <b>L</b>  |          |
| Lawson, William B., Nickel  | 21       |
| Leather, R. S., Greaseless Metal Finishing Compositions                                     | 238      |
| <b>M</b>  |          |
| McGinnis, Joseph P., *Making a Form for Crucible Tongs                                      | 106      |
| Mason, William, *Metal Spinning   | 67       |
| Mason, William, *Metal Spinning   | 284      |
| Mason, William, *Metal Spinning   | 373      |
| Meissner, K. L., Age-Hardening Tests with Elektron Alloys                                   | 504      |
| Miskella, William J., *High Lights on Japanning   | 378      |
| Munzing, A. P., Electro Plating in Japan  | 497      |
| <b>N</b>  |          |
| Neich, Harry D., What is Wrong with the Foundry Business?                                   | 65       |
| Nealey, J. B., *Japanning Automobile Products   | 461      |
| <b>P</b>  |          |
| Pettis, W. J., Brass Billets for Extrusion  | 66       |
| Pettis, W. J., Brass for Saxophones   | 190      |
| Pettis, W. J., Cleaning Wire  | 247      |
| Pettis, W. J., *Extruding Copper Tubes  | 16       |
| Pettis, W. J., Making Braze Tubing  | 151      |
| Pitschner, Karl, *Testing Plated Coatings   | 336      |
| Porter, F. R., Buffing Compositions   | 70       |
| Porter, F. R., Notes on Chromium Plating  | 375      |
| Proctor, Charles H., A New Rust-Proof Black Finish for Iron and Steel                       | 154      |
| Proctor, Charles H., Black on Silver  | 157      |
| Proctor, Charles H., Brown, Blue or Black on Steel  | 235      |
| Proctor, Charles H., Cadmium Solution   | 377      |
| Proctor, Charles H., Chromium Plating Developments  | 331      |
| Proctor, Charles H., Coloring Nickel Silver   | 149      |
| Proctor, Charles H., Depositing Solder  | 18       |
| Proctor, Charles H., *Electro-Plating Industry, The   | 17       |
| Proctor, Charles H., Electro Plating Tin  | 18       |
| Proctor, Charles H., Hot Tinning Cast Iron  | 233      |
| Proctor, Charles H., Metal on Plaster and Wood  | 69       |
| Proctor, Charles H., Nickel and Copper Solutions  | 111      |
| Proctor, Charles H., Problems in Plating and Finishing                                      | 289      |
| Proctor, Charles H., Satin Finish on Nickel Plated Die Castings                             | 157      |
| Proctor, Charles H., Silver Solution Troubles   | 288      |
| Proctor, Charles H., Statuary Bronze Finish   | 69       |
| <b>R</b>  |          |
| Re, A. V., *An Efficient Plating Room Layout  | 68       |
| Reardon, W. J., Casting Britannia   | 454      |
| Reardon, Wm. J., Casting Problems   | 149      |
| Reardon, W. J., Casting Soft Metal  | 448      |
| Reardon, Wm. J., Casting Weight Variation   | 419      |
| Reardon, W. J., *Centrifugal Castings of Bearings   | 326      |
| Reardon, Wm. J., Cleaning Core Boxes  | 62       |
| Reardon, W. J., Drop Hammer Alloy   | 323      |
| Reardon, Wm. J., Filler for Die Castings  | 421      |
| Reardon, Wm. J., Hard Spots in Aluminum   | 419      |
| Reardon, William J., Ingot vs. Scrap Copper   | 368      |
| Reardon, W. J., Lead Oxidation  | 279      |
| Reardon, Wm. J., *Leaky Brass Casting   | 106      |
| Reardon, W. J., Match Plates  | 249      |
| Reardon, W. J., Oxidized Brass  | 190      |
| Reardon, W. J., Oxidized High Lead Mixture  | 190      |
| Reardon, Wm. J., Phosphor Bronze  | 419      |
| Reardon, W. J., *Phosphorizing  | 451      |
| Reardon, W. J., Protecting Iron Pots  | 326      |
| Reardon, W. J., Reclaiming Chips  | 66       |
| Reardon, W. J., Refining Scrap  | 326      |
| Reardon, W. J., Smelting Lead   | 66       |
| Reardon, W. J., *Spongy Brass Casting   | 13       |
| Richard, N., Antique Finishes on Copper and Brass   | 422      |
| <b>S</b>  |          |
| St. John, H. M., *American Foundrymen's Convention  | 277      |
| St. John, H. M., National Metal Week  | 409      |
| Saunders, A. F., *Greek and Roman Cups  | 495      |
| Saunders, A. F., *Candlesticks of Silver  | 10       |
| Saunders A. F., *The Design and Workmanship of Drinking Horns                               | 328      |
| Schneidewind, Richard, Chromium Plating Patents   | 500      |
| Silberstein, James, Germanium   | 250      |
| Silberstein, James, *Manufacturing Seamless Copper Tubes Electrolytically                   | 487      |
| Silberstein, James, *Water-Cooled Molds   | 335      |
| Sillers Jr., Frederick, Note on the Crystal Structure of Electrodeposited Chromium          | 294      |
| Smith, Horace H., Platinum Solution   | 333      |
| Smith, Cyril S., Cathodic Disintegration as a Method of Etching Specimens for Metallography | 504      |
| Sutton, H., Electrodeposited Coatings for Prevention of Corrosion                           | 112, 155 |
| <b>T</b>  |          |
| Taylor, Floyd T., *Electro-Plating Safety Razors  | 405      |
| Thews, Edmund R., *Production and Refining of Remelted Zinc, The                            | 60, 107  |
| Thews, Edmund R., Refining Zinc   | 193      |
| Thews, E. R., *Smelting Secondary Tin   | 393, 411 |
| Tosterud, Martin, The "Discovery" of Aluminum   | 237      |
| Tuthill, Stephen S., *Zinc  | 20       |

|  |          |
|--|----------|
| <b>W</b>   |          |
| Weisberg, Louis, *New Chromium Plating Plant   | 457      |
| Wernlund, C. J., *Plating Barrel for Cyanide Baths   | 110      |
| Westbrook, F. A., *Monel Metal in Dye Tanks  | 111      |
| White, Professor H. C., Metal Lacquers   | 460      |
| Williams, Reginald V., *Alloys of Precious Metals and the High Frequency Induction Furnace | 141, 188 |
| Willis, Wm. A., *Copper  | 19       |
| Wolff, Gerhard, Silica and Magnesite Bricks in Metallurgical Furnaces                      | 489      |
| <b>Z</b>   |          |
| Ziegler, N. V. B., Conducting Safety Meetings  | 464      |
| Zucker, F. A., *Metal Polishing  | 167      |
| <b>CORRESPONDENCE AND DISCUSSION</b>   |          |
| Aluminum Lubricant   | 386      |
| Baking Japan   | 428      |
| Cleaning Core Boxes  | 162      |
| Diseases of Plated Deposits  | 254      |
| Group of Friends, A.   | 344      |
| Heat Treating Tools  | 428      |
| Help Received  | 254      |
| Lead Alloys in Brass Foundries   | 162      |
| Lead Poisoning   | 76       |
| Lead Poisoning   | 162      |
| Magnetic Separation of Metals  | 28       |
| Plating Interest in Australia  | 120      |
| Spotting Out   | 386      |
| Wage Methods in Foundries  | 120      |
| White Gold Strip   | 120      |
| Word of Appreciation, A  | 254      |
| Zincing vs. Galvanizing  | 28       |
| Zincing vs. Galvanizing  | 76       |
| Zincing vs. Galvanizing  | 162      |
| <b>EDITORIALS</b>  |          |
| Alloy Price Quotations   | 426      |
| American Wages   | 161      |
| Assays and Empires   | 204      |
| Better Distribution  | 466      |
| Brass Mergers  | 253      |
| Building Industry, The   | 119      |
| Charles H. Proctor Honored   | 385      |
| Civil War in Connecticut   | 304      |
| Co-Operative Work  | 427      |
| Copper Alloys, The   | 252      |
| Copper Institute   | 500      |
| Copper Consumption   | 75       |
| Cramp Abandons Shipbuilding  | 205      |
| Electric Furnace Progress  | 252      |
| Electro-Platers' Banquets  | 343      |
| Electro-Platers' Convention  | 203      |
| Electro-Platers' Convention  | 208      |
| Electro-Plating Supply Merger  | 385      |
| Foundry Business, The  | 74       |
| Foundrymen's Association Work  | 161      |
| Foundrymen's Convention  | 205      |
| Foundrymen's Convention  | 298      |
| Fuels  | 507      |
| Future of Electrochemistry   | 298      |
| Handing Lacquer  | 253      |
| Hardened Copper  | 427      |
| How Copper was Named   | 467      |
| Institute of Metals Division Activities  | 118      |
| Inventory of American Resources, An  | 118      |
| Lacquer Dangers  | 290      |
| Marketing Zinc-Coated Sheets   | 342      |
| Metal Consumption  | 343      |
| Metal Manufacturers in New York  | 427      |
| Metal Reel Standardization   | 252      |
| Metals in the Air  | 298      |
| Metals in War and Peace  | 466      |
| National Problems  | 384      |
| Patents and Royalties  | 426      |
| Platers' Convention, The   | 253      |
| Platers' Society Growth  | 385      |
| Plating Hazards  | 299      |
| Prizes for Foundry Papers  | 427      |
| Responsibilities of Research, The  | 384      |
| Review of the Metal Industries for 1926—Outlook for 1927                                   | 74       |
| Room for Improvement   | 26       |
| Simplified Practice Progress   | 342      |
| Stabilizing Brass Manufacture  | 160      |
| Standard Crucibles   | 342      |
| Telephone Progress   | 385      |
| Testing Materials Society  | 343      |
| Tin Developments   | 467      |
| Tin in the United States   | 160      |
| Uses of Metals   | 506      |
| Well Intentioned Waste   | 119      |
| <b>NEW BOOKS</b>   |          |
| Aluminum Bronze Powder and Aluminum Paint  | 344      |
| Ancient Egyptian Metallurgy  | 206      |
| Applied Budgeting  | 77       |
| Arc Welding  | 29       |
| Bound Volume of The Metal Industry   | 121      |
| Brass Founders' and Finishers' Manual  | 29       |
| Chemical Engineering Catalog   | 428      |
| Employment Psychology  | 344      |
| Employment Statistics for the United States  | 167      |
| Endurance of Metals Under Repeated Stress  | 253      |



|   |     |
|---|-----|
| Engineering Metallurgy .....  | 77  |
| Fatigue of Metals .....   | 344 |
| Forecasting, Planning and Budgeting in Business Management .....                                    | 29  |
| Galvanizing .....   | 206 |
| History of the Incandescent Lamp .....  | 386 |
| Industrial Research Laboratories of the United States .....   | 386 |
| Introduction to Metal Work .....  | 163 |
| Metal Industry Handbook and Directory .....   | 300 |
| Metal Statistics for 1927 .....   | 253 |
| Metallographic Researches .....   | 77  |
| Metallurgy .....  | 468 |
| Nema Handbook of Supply Standards .....   | 468 |
| Oxwelder's Manual, The .....  | 121 |
| Patents .....   | 163 |
| Procedures in Employment Psychology .....   | 29  |
| Proceedings of the 29th Annual Meeting of the American Society for Testing Materials—1926 .....     | 163 |
| Securing Employment for the Handicapped .....   | 206 |
| Six-Place Tables .....  | 163 |
| Standards Yearbook for 1927 .....   | 300 |
| Statistical Abstract of the United States for 1925 .....  | 163 |
| Steel and Its Heat Treatment .....  | 468 |
| Story of Chemistry, The .....   | 468 |
| Technique of Executive Control, The .....   | 300 |
| Titanium .....  | 344 |
| Transactions of the American Foundrymen's Association for 1926 .....                                | 300 |
| Two Lectures on the Development and Present Position of Chemical Analysis by Emission Spectra ..... | 206 |
| Year Book of the American Bureau of Metal Statistics .....  | 300 |

## TECHNICAL PAPERS

|  |     |
|--|-----|
| Aluminum and Its Alloys .....  | 206 |
| Annealing of Copper, The .....   | 206 |
| Anodes for Chromium Plating .....  | 428 |
| Bend Tests of Galvanized Sheet Steel .....   | 121 |
| Chromium—Its Properties and Uses .....   | 120 |
| Directory of Commercial Testing and College Research Laboratories .....                      | 300 |
| Electrodeposition of Chromium from Chromic Acid Baths .....                                  | 300 |
| Electrodeposition of Rubber .....  | 120 |
| Glossary of Terms Relating to X-Ray Metallography .....                                      | 254 |
| Heat Treatment of Aluminum Alloys .....  | 254 |
| Improving Electric Conductor Alloys .....  | 121 |
| Industrial Cleaning: An Advancing Science .....  | 254 |
| Investigation of the Physical Properties of Some Nickel-Iron Alloys of the Invar Group ..... | 120 |
| Investigation of the Thermo-Electric Properties of Some Alloys of Nickel .....               | 254 |
| Iron and Steel Industry and British Foundrymen .....   | 507 |
| Lighting Data. Illumination Terms .....  | 300 |
| Lighting for Street Traffic Control .....  | 300 |
| Load Test for Fire Clay Refractories, The .....  | 120 |
| Making of Nickel Products by the International Nickel Company, The .....                     | 300 |
| Manganese in Non-Ferrous Alloys .....  | 163 |
| Manganese Situation from a Domestic Standpoint, The .....                                    | 300 |
| Methods of Growing Large Metal Crystals .....  | 300 |
| Mission and the Needs of the United States Navy, The .....                                   | 507 |
| Physico-Chemical Principles in Electro-Metallurgical Research .....                          | 344 |
| Prerequisites of Successful Polishing .....  | 428 |
| Properties of Refractories in Zinc Metallurgy .....  | 507 |
| Rapid Evaluation of Baked Japan Finishes .....   | 254 |
| Recent Developments in Burning Powdered Coal Under Steam Boilers .....                       | 300 |
| Relationships Between the Rockwell and Brinell Numbers .....                                 | 206 |
| Status of the National Safety Codes, The .....   | 468 |
| Study of the Factors Affecting the Electrode Potentials in the Deposition of Nickel, A ..... | 254 |
| Tarnish Resisting Silver Alloys .....  | 468 |
| Thermal Expansion of Graphite .....  | 206 |
| Vertical Ring Induction Furnace, The .....   | 206 |
| Wave-Length Measurements in the Arc and Spark Spectra of Zirconium .....                     | 300 |

## SHOP PROBLEMS

### A

|                                    |     |
|------------------------------------|-----|
| Acid Resisting Metal .....         | 164 |
| Alkaline Copper Solution .....     | 255 |
| Alloy for Pressure, Aluminum ..... | 508 |
| Aluminum Alloy for Pressure .....  | 508 |
| Aluminum, Black on .....           | 30  |
| Aluminum in Brass .....            | 508 |
| Aluminum, Nickel on .....          | 207 |
| Aluminum, Plating on .....         | 302 |
| Aluminum, Polishing .....          | 346 |
| Aluminum, Tumbling .....           | 165 |
| Anodes, Bagged Nickel .....        | 30  |
| Antique, Brass .....               | 207 |
| Antique, Verde .....               | 430 |
| Automatic Buffing .....            | 255 |

### B

|   |     |
|---|-----|
| Bagged Nickel Anodes .....              | 30  |
| Barff Finish, Bower .....               | 30  |
| Bars, Reinforced Tube for Bus .....     | 302 |
| Black Nickel .....                      | 78  |
| Black on Aluminum .....                 | 30  |
| Black on Bronze .....                   | 508 |
| Black on Pewter, Gray .....             | 207 |
| Black Oxide on Silver .....             | 301 |
| Blue Finish on Steel .....              | 30  |
| Blue on Steel .....                     | 345 |
| Bluing Liquid, Gun .....                | 301 |
| Bower Barff Finish .....                | 30  |
| Brass, Aluminum in .....                | 508 |
| Brass and Zinc, Nickel on .....         | 255 |
| Brass, Antique .....                    | 207 |
| Brass, Bright Dipping .....             | 508 |
| Brass Cable, Nickel on .....            | 256 |
| Brass, Coloring .....                   | 469 |
| Brass Deposit, Red .....                | 302 |
| Brass, Green on .....                   | 31  |
| Brass, Old English .....                | 470 |
| Brass, Orange Color on .....            | 79  |
| Brass Solutions .....                   | 122 |
| Brass Stamping Dies .....               | 508 |
| Brass, Zinc Fumes from Yellow .....     | 256 |
| Bright Copper .....                     | 429 |
| Bright Dipping Brass .....              | 508 |
| Bright Gold .....                       | 509 |
| Bright Nickel .....                     | 122 |
| Bright Nickel .....                     | 387 |
| Bright Nickel and White Gold .....      | 164 |
| Bright Nickel on Copper .....           | 255 |
| Bronze, Black on .....                  | 508 |
| Bronze Bushings .....                   | 122 |
| Bronze Castings, Plating Porous .....   | 31  |
| Bronze Finish .....                     | 345 |
| Bronze on Hinges .....                  | 509 |
| Bronze, Ornamental .....                | 470 |
| Bronze, Oxidized .....                  | 256 |
| Bronze Plating .....                    | 387 |
| Bronze Solution, Natural .....          | 387 |
| Buffing, Automatic .....                | 255 |
| Buffing Silver Plate .....              | 122 |
| Burned Copper and Nickel Deposits ..... | 30  |
| Bus Bars, Reinforced Tube for .....     | 302 |
| Bushings, Bronze .....                  | 122 |

### C

|  |     |
|--|-----|
| Cable, Nickel on Brass .....             | 256 |
| Cadmium and Zinc Solutions .....         | 387 |
| Cadmium Plating .....                    | 301 |
| Cast Iron, Nickel on .....               | 509 |
| Casting Funnels .....                    | 122 |
| Casting Pistons .....                    | 301 |
| Castings, Plating Die .....              | 165 |
| Castings, Plating Porous Bronze .....    | 31  |
| Castings, Rough .....                    | 208 |
| Chrome Steel, Nickel on .....            | 388 |
| Chromium on Gray Iron .....              | 387 |
| Chromium on Steel .....                  | 429 |
| Chromium Plating .....                   | 469 |
| Cleaning Nickel Silver .....             | 207 |
| Cleaning Silver .....                    | 122 |
| Cleaning Silverware .....                | 345 |
| Cleaning Soldered Tubes .....            | 345 |
| Cobalt Plate .....                       | 509 |
| Coiled Springs, Coloring .....           | 123 |
| Cold Metal .....                         | 164 |
| Color on Brass, Orange .....             | 79  |
| Coloring Brass .....                     | 469 |
| Coloring Coiled Springs .....            | 123 |
| Controlling Solutions .....              | 429 |
| Copper and Gold on Pewter .....          | 78  |
| Copper and Nickel Deposits, Burned ..... | 30  |
| Copper, Bright .....                     | 429 |
| Copper, Bright Nickel on .....           | 255 |
| Copper, Cyanide .....                    | 164 |
| Copper Dip .....                         | 164 |
| Copper on Leather .....                  | 429 |
| Copper on Zinc .....                     | 123 |
| Copper Solution .....                    | 207 |
| Copper Solution .....                    | 301 |
| Copper Solution, Alkaline .....          | 255 |
| Copper, Streaking .....                  | 430 |
| Cost, Nickel Plating .....               | 208 |
| Cracking Nickel .....                    | 429 |
| Crystallized Silver Solution .....       | 123 |
| Cyanide Copper .....                     | 164 |
| Cyanide Solution, Zinc .....             | 79  |

### D

|  |     |
|--|-----|
| Deposit, Lumpy Silver .....              | 165 |
| Deposit, Red Brass .....                 | 302 |
| Depositing Iron .....                    | 345 |
| Deposits, Burned Copper and Nickel ..... | 30  |
| Die Castings, Plating .....              | 165 |
| Dies, Brass Stamping .....               | 508 |
| Dip, Copper .....                        | 164 |
| Dipping Brass, Bright .....              | 508 |

### E

|                                  |     |
|----------------------------------|-----|
| Electro-Strip .....              | 164 |
| English Brass, Old .....         | 470 |
| English Finish, Old .....        | 78  |
| Exhaust, Polishing Machine ..... | 79  |

### F

|                              |     |
|------------------------------|-----|
| Finish, Bower Barff .....    | 30  |
| Finish, Bronze .....         | 345 |
| Finish, Old English .....    | 78  |
| Finish on Steel, Blue .....  | 30  |
| Finish, Rose Gold .....      | 346 |
| Finished Nickel, Satin ..... | 302 |
| Finishing White Metal .....  | 469 |

|                                     |     |
|-------------------------------------|-----|
| Fumes from Yellow Brass, Zinc ..... | 256 |
| Funnels, Casting .....              | 122 |

### G

|                                     |     |
|-------------------------------------|-----|
| Galvanoplasty .....                 | 346 |
| Gold, Bright .....                  | 500 |
| Gold, Bright Nickel and White ..... | 164 |
| Gold Finish, Rose .....             | 346 |
| Gold, Green .....                   | 78  |
| Gold on Pewter, Copper and .....    | 78  |
| Gold, Oxidizing White .....         | 470 |
| Gold Plating .....                  | 346 |
| Gray-Black on Pewter .....          | 207 |
| Gray Iron, Chromium On .....        | 387 |
| Gray on Metal .....                 | 78  |
| Green Gold .....                    | 78  |
| Green on Brass .....                | 31  |
| Gun-Bluing Liquid .....             | 301 |

### H

|                         |     |
|-------------------------|-----|
| Hinges, Bronze on ..... | 500 |
|-------------------------|-----|

### I

|                              |     |
|------------------------------|-----|
| Imitation Platinum .....     | 346 |
| Impure Nickel Solution ..... | 469 |
| Iron, Chromium on Gray ..... | 387 |
| Iron, Depositing .....       | 345 |
| Iron, Nickel on Cast .....   | 509 |
| Iron Solution .....          | 207 |

### K

|                             |     |
|-----------------------------|-----|
| Keys, Nickel on Steel ..... | 388 |
|-----------------------------|-----|

### L

|                            |     |
|----------------------------|-----|
| Lead, Plating on .....     | 79  |
| Leather, Copper on .....   | 429 |
| Lining, Tank .....         | 208 |
| Lining, Tank .....         | 430 |
| Liquid, Gun-Bluing .....   | 301 |
| Lumpy Silver Deposit ..... | 165 |

### M

|                                  |     |
|----------------------------------|-----|
| Machine Exhaust, Polishing ..... | 79  |
| Metal, Acid Resisting .....      | 164 |
| Metal, Cold .....                | 164 |
| Metal, Finishing White .....     | 469 |
| Metal, Gray on .....             | 78  |
| Mirrors, Silvering .....         | 302 |

### N

|  |     |
|--|-----|
| Natural Bronze Solution .....            | 387 |
| Nickel and White Gold, Bright .....      | 164 |
| Nickel Anodes, Bagged .....              | 30  |
| Nickel, Black .....                      | 78  |
| Nickel, Bright .....                     | 122 |
| Nickel, Bright .....                     | 387 |
| Nickel, Cracking .....                   | 429 |
| Nickel Deposits, Burned Copper and ..... | 30  |
| Nickel on Aluminum .....                 | 207 |
| Nickel on Brass and Zinc .....           | 255 |
| Nickel on Brass Cable .....              | 256 |
| Nickel on Cast Iron .....                | 509 |
| Nickel on Chrome Steel .....             | 388 |
| Nickel on Copper, Bright .....           | 255 |
| Nickel on Steel Keys .....               | 388 |
| Nickel, Peeling .....                    | 430 |
| Nickel, Peeling .....                    | 470 |
| Nickel, Pitted .....                     | 79  |
| Nickel Plating Cost .....                | 208 |
| Nickel, Satin Finished .....             | 302 |
| Nickel Silver, Cleaning .....            | 207 |
| Nickel Solution .....                    | 470 |
| Nickel Solution, Impure .....            | 469 |
| Nickel, White .....                      | 346 |

### O

|                              |     |
|------------------------------|-----|
| Off, Plating Rack Stop ..... | 165 |
| Old English Brass .....      | 470 |
| Old English Finish .....     | 78  |
| Orange Color on Brass .....  | 79  |
| Ornamental Bronze .....      | 470 |
| Out, Spotting .....          | 31  |
| Oxide on Silver, Black ..... | 301 |
| Oxidized Bronze .....        | 256 |
| Oxidizing White Gold .....   | 470 |

### P

|                                       |     |
|---------------------------------------|-----|
| Peeling Nickel .....                  | 430 |
| Peeling Nickel .....                  | 470 |
| Pewter, Copper and Gold on .....      | 78  |
| Pewter, Gray-Black on .....           | 207 |
| Pistons, Casting .....                | 301 |
| Pitted Nickel .....                   | 79  |
| Plate, Buffing Silver .....           | 122 |
| Plate, Cobalt .....                   | 509 |
| Plated Ware, Silver .....             | 165 |
| Plating, Bronze .....                 | 387 |
| Plating, Cadmium .....                | 301 |
| Plating, Chromium .....               | 469 |
| Plating Cost, Nickel .....            | 208 |
| Plating Die Castings .....            | 165 |
| Plating, Gold .....                   | 346 |
| Plating on Aluminum .....             | 302 |
| Plating on Lead .....                 | 79  |
| Plating Porous Bronze Castings .....  | 31  |
| Plating Rack Stop-Off .....           | 165 |
| Plating Racks, Protecting .....       | 79  |
| Plating, Zinc .....                   | 123 |
| Platinum, Imitation .....             | 346 |
| Polishing Aluminum .....              | 346 |
| Polishing Machine Exhaust .....       | 79  |
| Polishing Steel .....                 | 208 |
| Porous Bronze Castings, Plating ..... | 31  |
| Pressure, Aluminum Alloy for .....    | 508 |
| Prevention, Rust .....                | 388 |
| Prevention, Rust .....                | 470 |

|  |     |  |     |   |     |
|--|-----|--|-----|---|-----|
| Protecting Plating Racks .....   | 79  | Aluminum from Oily Metallic Mixtures and the Like, Process of Recovering, 1,646,239 .....          | 510 | Hollow Bronze Objects, Press for Pressing, 1,629,417 .....  | 306 |
| <b>R</b>   |     | <b>I</b>   |     | <b>J</b>  |     |
| Rack Stop-Off, Plating .....   | 165 | Induction Furnace, 1,646,862 .....   | 510 | Jar-Molding Machine, 1,642,074 .....  | 432 |
| Racks, Protecting Plating .....  | 79  | Iron and Steel for Preventing Oxidation or Rusting, Process for the Treatment of, 1,610,362 .....  | 80  | <b>L</b>  |     |
| Red Brass Deposit .....  | 302 | <b>L</b>   |     | Lacquer and Lacquer Enamel, 1,618,481 .....   | 166 |
| Reinforced Tube for Bus Bars .....                                     | 302 | Lacquer or Varnish Composition, Adhesive, 1,639,395 .....  | 432 | Lacquer or Varnish Composition, Adhesive, 1,639,395 .....   | 432 |
| Resisting Metal, Acid .....  | 164 | Lacquering or Varnishing Apparatus, 1,613,235 .....  | 80  | Lead Battery Paste, Recovery of Ingredients of Waste, 1,610,599 .....                             | 80  |
| Rough Castings .....   | 208 | Lead Battery Plates, Process of Treating, 1,627,351 .....  | 203 | Lead Cadmium Alloys, 1,645,098 .....  | 510 |
| Rose Gold Finish .....   | 346 | Lead-Copper Particles, Method of Making, 1,635,653 .....   | 359 | Lead Dross, Method of Treating, 1,642,358 .....   | 471 |
| Rust Prevention .....  | 388 | Lead Plating of Metals, 1,614,602 .....  | 124 | Light-Metal Alloy, 1,606,752 .....  | 32  |
| Rust Prevention .....  | 470 | Los Angeles Patent Room .....  | 80  | <b>M</b>  |     |
| <b>S</b>   |     | <b>M</b>   |     | Machine for Trimming the Edges of Bearing or Like Sections, 1,626,924 .....                       | 257 |
| Satin Finished Nickel .....  | 302 | Malleable Nickel, Manufacture of, 1,628,149 .....  | 303 | Melting Furnace, 1,632,366 .....  | 347 |
| Silver, Black Oxide on .....   | 301 | Melting Pot, 1,639,380 .....   | 432 | Metal Alloys, Manufacture of, 1,607,245 .....   | 32  |
| Silver, Cleaning .....   | 122 | Metal Baths and Method of Making the Same, Composition for Treating, 1,622,078 .....               | 209 | Metal Coatings, Method of, 1,612,585 .....  | 80  |
| Silver, Cleaning Nickel .....  | 207 | Metal Coatings on Articles of Aluminum and Aluminum Alloys, Process for Obtaining, 1,607,676 ..... | 32  | Metal Dust, Apparatus for the Production of, 1,622,433-1,622,434 .....                            | 204 |
| Silver Deposits, Lumpy .....   | 165 | Metal Pouring Apparatus for Centrifugal Casting Machines, 1,626,342 .....                          | 257 | Metal Refining, 1,636,881 .....   | 431 |
| Silver Plate, Buffing .....  | 122 | Metallic Composition, 1,611,043 .....  | 80  | Metals, Apparatus for Refining, 1,628,375 .....   | 306 |
| Silver Plated Ware .....   | 165 | Metallurgical Powder Particles, Rounding of, 1,647,249 .....                                       | 510 | Metals from Solutions, Process of Recovering, 1,624,172 .....                                     | 206 |
| Silver Solution, Crystallized .....                                    | 123 | Metals and Alloys, Process for Purifying or Refining, 1,636,881 .....                              | 431 | Metals, Uniting Dissimilar, 1,644,741 .....   | 510 |
| Silver, Stripping .....  | 509 | Metals with Gases, Process of Reacting, 1,638,471 .....  | 431 | Mold, 1,645,725-1,645,732 .....   | 510 |
| Silvering Mirrors .....  | 302 | Mold for Casting Metals, 1,640,543 .....   | 432 | Molding Machine, 1,621,114 .....  | 206 |
| Silverware, Cleaning .....   | 345 | Molding Machine, 1,638,665 .....   | 431 | Molten Material Spraying Apparatus, 1,642,418 .....   | 471 |
| Soldered Tubes, Cleaning .....   | 345 | Molten Metal in Open-Hearth and Like Furnaces, Means for Agitating and Stirring, 1,635,037 .....   | 389 | <b>N</b>  |     |
| Solution, Alkaline Copper .....  | 255 | Nickel Alloy, 1,623,948 .....  | 209 | Nickel-Copper Alloy and Process of Making Same, 1,614,878 .....                                   | 124 |
| Solution, Copper .....   | 207 | Nickel, Method of Producing Finely-Divided, 1,628,190 .....  | 303 | Non-oxidizing Annealing Furnace, 1,624,258 .....  | 209 |
| Solution, Copper .....   | 301 | <b>O</b>   |     | <b>P</b>  |     |
| Solution, Crystallized Silver .....                                    | 123 | Oxidizing Non-Ferrous Metals, Process for, 1,616,233 .....   | 166 | Paper for Preventing Tarnishing of Polished Metals, 1,628,610 .....                               | 303 |
| Solution, Impure Nickel .....  | 469 | <b>P</b>   |     | Plating and Method of Accomplishing the Same, 1,642,238 .....                                     | 432 |
| Solution, Iron .....   | 207 | Paving Equipment, 1,613,878 .....  | 124 | Plating Machine, 1,607,850 .....  | 32  |
| Solution, Natural Bronze .....   | 387 | Plating Metals, 1,619,835 .....  | 166 | Plating Method, 1,608,250 .....   | 32  |
| Solution, Nickel .....   | 470 | Polishing Composition, 1,624,783 .....   | 257 | Polishing Machine, 1,636,557 .....  | 431 |
| Solution, Tin .....  | 31  | Polishing Wheel, 1,619,442 .....   | 166 | Polishing Wheel and Process for Treating Same, 1,633,523 .....                                    | 389 |
| Solution, Tin .....  | 208 | Precious Metal, Apparatus for Washing Refuse Containing, 1,627,129 .....                           | 257 | Protective and Resistant Coatings, Process of Producing, 1,606,159 .....                          | 32  |
| Solution, Zinc Cyanide .....   | 79  | Protective and Resistant Coatings, Process of Producing, 1,606,159 .....                           | 32  | Pure Metal, Apparatus for Production of, 1,642,683 .....  | 471 |
| Solution, Brass .....  | 122 | Pyroxylin-Lacquer Composition, 1,641,529 .....   | 432 | <b>R</b>  |     |
| Solutions, Cadmium and Zinc .....                                      | 387 | <b>R</b>   |     | Reclaiming Metals, Apparatus for, 1,630,361 .....   | 347 |
| Solutions, Controlling .....   | 429 | Reclaiming Lead, 1,640,456 .....   | 432 | Refining Lead, 1,640,457 .....  | 432 |
| Spotting Out .....   | 31  | Refining Tin, Process of, 1,609,367 .....  | 510 | Resistance Alloy, 1,645,099 .....   | 510 |
| Springs, Coloring Colloid .....  | 123 | Reverberatory Furnaces, Replaceable Liner for, 1,645,011 .....                                     | 510 | Rolling Metal, Apparatus for, 1,634,258 .....   | 389 |
| Stamping Dies, Brass .....   | 508 | Rolling Mill, 1,614,422-5 .....  | 124 | <b>S</b>  |     |
| Steel, Blue Finish on .....  | 30  | Sand Cores and Molds for Metal Founding, Wash for, 1,610,941 .....                                 | 80  | Silicon-Iron and Aluminum-Copper Alloys, Production of, 1,644,000 .....                           | 471 |
| Steel, Blue on .....   | 345 | <b>S</b>   |     |   |     |
| Steel, Chromium on .....   | 429 |  |     |   |     |
| Steel Keys, Nickel on .....  | 388 |  |     |   |     |
| Steel, Nickel on Chrome .....  | 388 |  |     |   |     |
| Steel, Polishing .....   | 208 |  |     |   |     |
| Stop-Off, Plating Rack .....   | 165 |  |     |   |     |
| Strapping Copper .....   | 430 |  |     |   |     |
| Strip, Electro .....   | 164 |  |     |   |     |
| Stripping Silver .....   | 509 |  |     |   |     |
| <b>T</b>   |     |  |     |   |     |
| Tank Lining .....  | 208 |  |     |   |     |
| Tank Lining .....  | 430 |  |     |   |     |
| Tin Solution .....   | 31  |  |     |   |     |
| Tin Solution .....   | 208 |  |     |   |     |
| Tinning .....  | 470 |  |     |   |     |
| Tube for Bus Bars, Reinforced .....                                    | 302 |  |     |   |     |
| Tubes, Cleaning Soldered .....   | 345 |  |     |   |     |
| Tumbling Aluminum .....  | 165 |  |     |   |     |
| <b>V</b>   |     |  |     |   |     |
| Verde Antique .....  | 430 |  |     |   |     |
| <b>W</b>   |     |  |     |   |     |
| Ware, Silver Plated .....  | 165 |  |     |   |     |
| White Gold, Bright Nickel and .....                                    | 164 |  |     |   |     |
| White Gold, Oxidizing .....  | 470 |  |     |   |     |
| White Metal, Finishing .....   | 469 |  |     |   |     |
| White Nickel .....   | 346 |  |     |   |     |
| <b>Y</b>   |     |  |     |   |     |
| Yellow Brass, Zinc Fumes from .....                                    | 256 |  |     |   |     |
| <b>Z</b>   |     |  |     |   |     |
| Zinc, Copper on .....  | 123 |  |     |   |     |
| Zinc Cyanide Solution .....  | 79  |  |     |   |     |
| Zinc Fumes from Yellow Brass .....                                     | 256 |  |     |   |     |
| Zinc, Nickel on Brass and .....  | 255 |  |     |   |     |
| Zinc Plating .....   | 123 |  |     |   |     |
| Zinc Solutions, Cadmium and .....                                      | 387 |  |     |   |     |
| <b>PATENTS</b>   |     |  |     |   |     |
| <b>A</b>   |     |  |     |   |     |
| Abrasive Article and Method of Manufacturing the Same, 1,635,981 ..... | 389 | Electric Furnace, 1,645,074 .....  | 510 | Electric Furnace, High-Frequency, 1,645,526 .....   | 510 |
| Abrasive Compound, 1,623,222 .....                                     | 209 | Electric Furnace, 1,615,109 .....  | 124 | Electric Furnace, 1,624,217 .....   | 209 |
| Abrasive Sheet Material, 1,645,037 .....                               | 510 | Electro-Depositing Metals, Means for, 1,607,994 .....  | 94  | Electro-Depositing Nickel Metals and the Resulting Products, Method and Means of, 1,607,960 ..... | 32  |
| Air Brush, 1,613,588 .....   | 124 | Electro-Deposition of Metals, 1,608,706 .....  | 32  | Electrolytic Apparatus and Electrode Thereof, 1,620,052 .....                                     | 166 |
| Alloy, 1,606,613 .....   | 32  | Electrolytic Plating Machine, 1,609,357 .....  | 32  | Electrolytic Plating Machine, 1,618,199 .....   | 166 |
| Alloy, 1,612,151 .....   | 80  | Electron Metal, Process for the Production of a Weatherproof Oxide Layer on, 1,642,309 .....       | 432 | Electroplating Machine, 1,631,199 .....   | 347 |
| Alloy, 1,624,857 .....   | 257 | Electroplating Machine, 1,634,549 .....  | 389 | Electrothermic Crucible, 1,638,060 .....  | 431 |
| Alloy, 1,626,038 .....   | 257 | Enamel Remover, 1,606,618 .....  | 32  | Furnace, 1,617,056 .....  | 166 |
| Alloy, 1,626,925 .....   | 303 | Furnace Lining, Art of, 1,643,425 .....  | 471 | Galvanized Corrugated Metal Pipe, Method of Producing, 1,623,618 .....                            | 209 |
| Alloy, 1,628,050 .....   | 303 | Galvanizing Apparatus, 1,630,508 .....   | 347 | Galvanoplasty, Art of, 1,624,575 .....  | 209 |
| Alloy, 1,633,826 .....   | 389 | Gold from Dilute Solutions, Extraction of, 1,617,353 .....   | 106 | Granular Brazing Solder and Method of Producing the Same, 1,617,285 .....                         | 166 |
| Alloy, 1,644,425 .....   | 471 | Hardening Copper, Process of, 1,638,076 .....  | 431 | Heat-Resisting Alloy, 1,633,805 .....   | 389 |
| Alloy Filament, 1,635,055 .....  | 389 |  |     |   |     |
| Alloy for Pen Points, 1,647,301 .....                                  | 510 |  |     |   |     |
| Alloy of Lithium and Aluminum, 1,620,081 .....                         | 209 |  |     |   |     |
| Alloy Structure, 1,642,348 .....                                       | 432 |  |     |   |     |
| Alloy Structure, 1,642,349 .....                                       | 471 |  |     |   |     |
| Alloys, Method of Making, 1,639,330 .....                              | 432 |  |     |   |     |
| Alumino Solder, 1,640,161 .....  | 432 |  |     |   |     |
| Aluminum Alloy Containing Lithium, 1,620,082 .....                     | 209 |  |     |   |     |
| Aluminum Alloys, Method of Improving, 1,631,940 .....                  | 347 |  |     |   |     |
| Aluminum Alloys, Process of Improving, 1,629,699 .....                 | 303 |  |     |   |     |
| Aluminum Dross and the Like, Process of Treating, 1,615,009 .....      | 124 |  |     |   |     |



|  |     |
|--|-----|
| Silver Alloy, 1,628,673.....   | 303 |
| Silver Alloy and Method of Making Same, 1,614,752.....   | 124 |
| Silver from Photographer's Spent Hyposulphite Solution, Process and Apparatus for Recovering, 1,629,212..... | 303 |
| Silver-Silicon Alloy and Process of Making the Same 1,643,304.....   | 471 |
| Smelting Furnace, 1,640,574.....   | 432 |
| Solder Aluminum, Compound to, 1,641,422.....   | 432 |
| Solder for Aluminum and Its Alloys, 1,619,832.....   | 166 |
| Soldering Articles, Process of 1,630,771.....  | 347 |
| Soldering Flux, 1,642,884.....   | 471 |
| Spray Drying, 1,624,733.....   | 257 |
| Spray Gun, 1,626,096.....  | 257 |
| Spraying Cabinet and Apparatus, 1,633,306.....   | 389 |

**T**

|   |     |
|---|-----|
| *Tinning Machine, 1,608,853.....                          | 32  |
| *Transfer Medium for Metallizing Purposes, 1,627,088..... | 257 |
| Treating Zinc Waste, Process of, 1,609,882.....           | 32  |
| Tube-Bending Machine, 1,624,804.....                      | 257 |
| Tungsten Patent Invalid.....                              | 80  |

**W**

|   |     |
|---|-----|
| Welding Copper and Aluminum, 1,636,656..... | 389 |
| Wrought Metal Article, 1,630,909.....       | 347 |

**Z**

|  |     |
|--|-----|
| Zinc Bars with Lead, Apparatus for Coating, 1,638,882..... | 431 |
|--|-----|

**EQUIPMENT****A**

|   |     |
|---|-----|
| 1927, Lincoln Arc Welding Prize for.....                    | 306 |
| *Acid Tanks, Rectangular.....                               | 259 |
| *Acids, Handling and Storage of.....                        | 259 |
| *Air Compressor, Automatically Controlled Motor-driven..... | 127 |
| *Airbrush, New Touch-Up.....                                | 473 |
| *Air Operated Spot Welder.....                              | 36  |
| Aluminum Bronze, Corrosion Resistance of.....               | 306 |
| Anodes, Heat Treated Nickel.....                            | 37  |
| Arc Welding Prize for 1927, Lincoln.....                    | 306 |
| *Arrestor, Cloth Screen Dust.....                           | 211 |
| *Arrestor, Dust.....  | 34  |
| *Atomic Hydrogen Welding, Practical.....                    | 390 |
| *Automatic Bolt Head Trimmer.....                           | 473 |
| *Automatic Cleaning and Pickling.....                       | 474 |
| *Automatic Combination Pointer and Threader.....            | 433 |
| *Automatic Plating Machine, New.....                        | 125 |
| *Automatic Strip Buffing Machine, New.....                  | 391 |
| *Automatically Controlled Motor-Driven Air Compressor.....  | 127 |

**B**

|  |     |
|--|-----|
| *Barrel, Belke Plating.....  | 82  |
| *Barrel, High-Speed Plating.....   | 512 |
| *Barrel, New Burnishing.....   | 260 |
| Barrel, New Burnishing.....  | 472 |
| *Barrel, New Plating.....  | 348 |
| *Barrel, Sawdust Tumbling.....   | 305 |
| *Barrels, Tumbling.....  | 260 |
| *Basket, Wire Dipping.....   | 169 |
| Belke Filter, New.....   | 305 |
| *Belke Plating Barrel.....   | 82  |
| Belts, Re-Conditioning Saves.....  | 213 |
| *Bench, New Draw.....  | 259 |
| Benefit of Organized Research and Development, Chromium Plating Industry to Receive..... | 472 |
| *Blanking Presses, Four-Post.....  | 391 |
| *Blast Equipment, Sand.....  | 36  |
| *Block, Comparator, New.....   | 258 |
| Blower System.....   | 36  |
| *Bolt Head Trimmer, Automatic.....   | 473 |
| Bronze, Corrosion Resistance of Aluminum.....  | 306 |
| *Brush, New Circular.....  | 168 |
| *Buffer, Hand Grinder and.....   | 304 |
| *Buffing and Polishing Equipment.....  | 126 |
| *Buffing and Polishing Machines, Selective Speed.....                                    | 210 |
| Buffing Compounds, Polishing and.....  | 474 |
| *Buffing Machine, New Automatic Strip.....   | 391 |
| *Buffing Machines, Motor Driven Grinding and.....  | 81  |
| *Burnishing Barrel, New.....   | 260 |
| Burnishing Barrel, New.....  | 472 |

**C**

|   |     |
|---|-----|
| Casting Machine, Small.....   | 435 |
| *Castings, Molding Small Intricate.....   | 83  |
| Centrifugal Machines.....   | 212 |
| Chromium Plating Industry to Receive Benefit of Organized Research and Development..... | 472 |
| *Cincinnati Drill, New.....   | 391 |
| *Circular Brush, New.....   | 168 |
| *Cleaner Exhibit.....   | 349 |
| *Cleaner and Pickling, Automatic.....   | 474 |
| Cleaning Compound, New.....   | 260 |
| *Cloth Screen Dust Arrestor.....  | 211 |
| *Combination Pointer and Threader, Automatic.....                                       | 433 |
| *Comparator, New Block.....   | 258 |
| Compound, New Cleaning.....   | 290 |
| Compounds, Polishing and Buffing.....   | 474 |
| *Compressor, Automatically Controlled Motor-Driven Air.....                             | 127 |
| *Conditioning Equipment, Sand.....  | 434 |
| *Controlled Motor-Driven Air Compressor, Automatically.....                             | 127 |
| *Conveyor, New Plating.....   | 258 |
| *Core Testing.....  | 126 |
| Corrosion Resistance of Aluminum Bronze.....  | 306 |
| *Crown Plating Machine.....   | 84  |
| Crucibles, Glazed.....  | 128 |

|                           |     |
|---------------------------|-----|
| *Crushers, Turning.....   | 434 |
| *Cutter, Power Sprue..... | 349 |

**D**

|  |     |
|--|-----|
| Development, Chromium Plating Industry to Receive Benefit of Organized Research and..... | 472 |
| *Dipping Baskets, Wire.....  | 169 |
| *Direct Jet Melting Furnace.....   | 473 |
| *Draw Bench, New.....  | 259 |
| *Drill, New Cincinnati.....  | 391 |
| *Driven Floor Grinder, Motor.....  | 81  |
| *Driven Grinding and Buffing Machines, Motor.....  | 81  |
| *Driven Lathe, New Motor.....  | 36  |
| *Driven Polishing Lathe, Motor.....  | 306 |
| *Drying Machine, New Metal.....  | 34  |
| *Durville Pouring Process.....   | 211 |
| *Dust Arrestor.....  | 34  |
| *Dust Arrestor, Cloth Screen.....  | 211 |
| *Duty Grinder, Heavy.....  | 433 |

**E**

|  |     |
|--|-----|
| *Electric Melting Pot.....             | 127 |
| *Electric Melting Pot.....             | 305 |
| *Electric Melting Pot, Small.....      | 433 |
| Electric Siren.....                    | 304 |
| *Electro-Plating Generators.....       | 35  |
| *Equipment, Buffing and Polishing..... | 126 |
| *Equipment, Sand Blast.....            | 36  |
| *Equipment, Sand-Conditioning.....     | 434 |
| *Equipment, Spray and Finishing.....   | 210 |
| *Exhaust Fan.....                      | 37  |
| Exhibit, Cleaner.....                  | 349 |
| *Exhibit, Refractories.....            | 84  |
| *Extinguisher, Hand Pump.....          | 212 |

**F**

|                                      |     |
|--------------------------------------|-----|
| *Fan, Exhaust.....                   | 37  |
| Filter, New Belke.....               | 305 |
| *Filter, New Solution.....           | 212 |
| *Finishing Equipment, Spray and..... | 210 |
| *Flasks, Taper Strip.....            | 127 |
| Flexible Lacquer, Permanent.....     | 259 |
| Floodlight Projector, New.....       | 304 |
| *Floor Grinder, Motor Driven.....    | 81  |
| *Four-Post Blanking Presses.....     | 391 |
| *Furnace, Direct Jet Melting.....    | 473 |
| *Furnace Linings, Maintaining.....   | 213 |
| *Furnace, Metal Melting.....         | 84  |
| *Furnace, New Tilting.....           | 33  |
| *Furnaces, Soft Metal.....           | 305 |

**G**

|   |     |
|---|-----|
| *Generator Set, New Motor.....                    | 348 |
| *Generators, Electro-Plating.....                 | 35  |
| Glazed Crucibles.....                             | 128 |
| *Grinder and Buffer, Hand.....                    | 304 |
| *Grinder, Heavy-Duty.....                         | 433 |
| *Grinder, Motor Driven Floor.....                 | 81  |
| Grinder, New.....                                 | 349 |
| *Grinding and Buffing Machines, Motor Driven..... | 81  |
| Ground Key Lubricant.....                         | 125 |
| *Gun, New Spray.....                              | 473 |

**H**

|   |     |
|---|-----|
| *Hand Grinder and Buffer.....                           | 304 |
| *Hand Pump Extinguisher.....                            | 212 |
| *Handling and Storage of Acids.....                     | 259 |
| *Hard Rubber Pump, New.....                             | 168 |
| *Hard Rubber Tanks as Used in the Plating Industry..... | 35  |
| *Head Trimmer, Automatic Bolt.....                      | 473 |
| Heat Treated Nickel Anodes.....                         | 37  |
| *Heavy-Duty Grinder.....                                | 433 |
| *High Purity Nickel, New.....                           | 34  |
| *High-Speed Plating Barrel.....                         | 512 |
| *Hilo Lacquer.....                                      | 213 |
| *Hydrogen Welding, Practical Atomic.....                | 390 |

**I**

|  |     |
|--|-----|
| *Industry, Hard Rubber Tanks as Used in the Plating.....                                 | 35  |
| Industry to Receive Benefit of Organized Research and Development, Chromium Plating..... | 472 |
| *Intricate Castings, Molding Small.....  | 83  |

**J**

|                                   |     |
|-----------------------------------|-----|
| *Jet Melting Furnace, Direct..... | 473 |
| Joints, Paint to Seal.....        | 212 |

**K**

|                            |     |
|----------------------------|-----|
| Key Lubricant, Ground..... | 125 |
|----------------------------|-----|

**L**

|   |     |
|---|-----|
| *Laboratory Sink.....                   | 168 |
| Lacquer, Hilo.....                      | 213 |
| Lacquer, Permanent Flexible.....        | 259 |
| *Lathe, Motor Driven Polishing.....     | 306 |
| *Lathe, New Motor-Driven.....           | 36  |
| Lawtonite Refractories.....             | 33  |
| Lincoln Arc Welding Prize for 1927..... | 306 |
| *Linings, Maintaining Furnace.....      | 213 |
| Lubricant, Ground Key.....              | 125 |

**M**

|   |     |
|---|-----|
| *Machine, Crown Plating.....                      | 84  |
| *Machine, New Automatic Plating.....              | 125 |
| *Machine, New Automatic Strip Buffing.....        | 391 |
| *Machine, New Metal Drying.....                   | 34  |
| *Machine, Polishing and Sanding.....              | 512 |
| *Machine, Power Molding.....                      | 83  |
| *Machine, Sawing.....                             | 126 |
| *Machine, Small Casting.....                      | 435 |
| *Machines, Centrifugal.....                       | 212 |
| *Machines, Motor Driven Grinding and Buffing..... | 81  |

|   |     |
|---|-----|
| *Machines, Selective Speed Buffing and Polishing.....       | 210 |
| *Maintaining Furnace Linings.....                           | 213 |
| *Melting Furnace, Direct Jet.....                           | 473 |
| Melting Furnace, Metal.....                                 | 84  |
| *Melting Pot, Electric.....                                 | 127 |
| *Melting Pot, Electric.....                                 | 305 |
| *Melting Pot, New Metal.....                                | 33  |
| *Melting Pot, Small Electric.....                           | 433 |
| *Metal Drying Machine, New.....                             | 34  |
| *Metal Furnaces, Soft.....                                  | 305 |
| Metal Melting Furnace.....                                  | 84  |
| *Metal Melting Pot, New.....                                | 33  |
| *Metal Polishing.....                                       | 167 |
| *Molding Machine, Power.....                                | 83  |
| *Moldings Small Intricate Castings.....                     | 83  |
| *Motor-Driven Air Compressor, Automatically Controlled..... | 127 |
| *Motor Driven Floor Grinder.....                            | 81  |
| *Motor Driven Grinding and Buffing Machines.....            | 81  |
| *Motor-Driven Lathe, New.....                               | 36  |
| *Motor-Driven Polishing Lathe.....                          | 306 |
| *Motor Generator Set, New.....                              | 348 |

**N**

|   |     |
|---|-----|
| *New Automatic Strip Buffing Machine..... | 391 |
| New Belke Filter.....                     | 305 |
| *New Block Comparator.....                | 258 |
| *New Burnishing Barrel.....               | 260 |
| New Burnishing Barrel.....                | 472 |
| *New Cincinnati Drill.....                | 391 |
| *New Circular Brush.....                  | 168 |
| New Cleaning Compound.....                | 260 |
| *New Draw Bench.....                      | 259 |
| *New Floodlight Projector.....            | 304 |
| New Grinder.....                          | 349 |
| *New Hard Rubber Pump.....                | 168 |
| New High Purity Nickel.....               | 34  |
| *New Metal Drying Machine.....            | 34  |
| *New Metal Melting Pot.....               | 33  |
| *New Motor-Driven Lathe.....              | 36  |
| *New Motor-Generator Set.....             | 348 |
| *New Plating Barrel.....                  | 348 |
| *New Plating Conveyor.....                | 258 |
| *New Pyrometer.....                       | 82  |
| New Siren.....                            | 210 |
| *New Solution Filter.....                 | 212 |
| *New Spray Gun.....                       | 473 |
| *New Tilting Furnace.....                 | 33  |
| *New Touch-Up Airbrush.....               | 473 |
| Nickel Anodes, Heat Treated.....          | 37  |
| Nickel, New High Purity.....              | 34  |
| Nickel, Principal Uses of.....            | 169 |
| *Nickelometer, The.....                   | 511 |

**O**

|  |     |
|--|-----|
| *Operated Spot Welder, Air.....  | 36  |
| Organized Research and Development, Chromium Plating Industry to Receive Benefit of..... | 472 |

**P**

|  |     |
|--|-----|
| Paint to Seal Joints.....  | 212 |
| Permanent Flexible Lacquer.....  | 259 |
| *Pickling, Automatic Cleaning and.....   | 474 |
| *Plating Barrel, Belke.....  | 82  |
| *Plating Barrel, High-Speed.....   | 512 |
| *Plating Barrel, New.....  | 348 |
| *Plating Conveyor, New.....  | 258 |
| *Plating Generators, Electro.....  | 35  |
| Plating Industry to Receive Benefit of Organized Research and Development, Chromium..... | 472 |
| *Plating Industry, Hard Rubber Tanks as Used in the.....                                 | 35  |
| *Plating Machine, Crown.....   | 84  |
| *Plating Machine, New Automatic.....   | 125 |
| *Plating Solutions, Testing.....   | 260 |
| *Pneumatic Shaker.....   | 83  |
| *Pointer and Threader, Automatic Combination.....  | 433 |
| Polishing and Buffing Compounds.....   | 474 |
| *Polishing and Sanding Machine.....  | 512 |
| *Polishing Equipment, Buffing and.....   | 126 |
| *Polishing Lathe, Motor-Driven.....  | 306 |
| *Polishing Machines, Selective Speed Buffing and.....                                    | 210 |
| *Polishing, Metal.....   | 167 |
| Polishing Wheel, Wood.....   | 349 |
| *Post Blanking Presses, Four.....  | 391 |
| *Post Squeezer, The Tabor.....   | 391 |
| *Pot, Electric Melting.....  | 127 |
| *Pot, Electric Melting.....  | 305 |
| *Pot, New Metal Melting.....   | 33  |
| *Pot, Small Electric Melting.....  | 433 |
| *Pouring Process, The Durville.....  | 211 |
| *Power Molding Machine.....  | 83  |
| *Power Sprue Cutter.....   | 349 |
| *Practical Atomic Hydrogen Welding.....  | 390 |
| *Presses, Four-Post Blanking.....  | 391 |
| Principal Uses of Nickel.....  | 169 |
| Prize for 1927, Lincoln Arc Welding.....   | 306 |
| Process Spreading, Udyllite.....   | 511 |
| *Process, The Durville Pouring.....  | 211 |
| *Projector, New Floodlight.....  | 304 |
| *Pump Extinguisher, Hand.....  | 212 |
| *Pump, New Hard Rubber.....  | 168 |
| Purity Nickel, New High.....   | 34  |
| *Pyrometer, New.....   | 82  |

**R**

|  |     |
|--|-----|
| Receive Benefit of Organized Research and Development, Chromium Plating Industry to..... | 472 |
| Re-Conditioning Saves Belts.....   | 213 |
| *Rectangular Acid Tanks.....   | 259 |
| *Refractories Exhibit.....   | 84  |
| Refractories, Lawtonite.....   | 33  |

|  |     |
|--|-----|
| Research and Development, Chromium Plating Industry to Receive Benefit of Organized .. | 472 |
| Resistance of Aluminum Bronze, Corrosion ..  | 306 |
| *Rubber Pump, New Hard ..  | 168 |
| *Rubber Tanks as Used in the Plating Industry, Hard ..                                 | 35  |

**S**

|   |     |
|---|-----|
| *Salt Spray Test Unit ..                            | 167 |
| *Sand Blast Equipment ..                            | 36  |
| *Sand-Conditioning Equipment ..                     | 434 |
| *Sanding Machine, Polishing and ..                  | 512 |
| Saves Belts, Re-Conditioning ..                     | 213 |
| *Sawdust Tumbling Barrel ..                         | 305 |
| *Sawing Machine ..                                  | 512 |
| *Screen Dust Arrestor, Cloth ..                     | 211 |
| Seal Joints, Paint to ..                            | 212 |
| *Selective Speed Buffing and Polishing Machines ..  | 210 |
| *Set, New Motor Generator ..                        | 348 |
| *Shaker, Pneumatic ..                               | 83  |
| *Sink, Laboratory ..                                | 168 |
| Siren, Electric ..                                  | 304 |
| Siren, New ..                                       | 210 |
| Small Casting Machine ..                            | 435 |
| *Small Electric Melting Pot ..                      | 433 |
| *Small Intricate Castings, Molding ..               | 83  |
| *Soft Metal Furnaces ..                             | 305 |
| *Solution Filter, New ..                            | 212 |
| *Solutions, Testing Plating ..                      | 260 |
| *Speed Buffing and Polishing Machines, Selective .. | 210 |
| *Speed Plating Barrel, High ..                      | 512 |
| *Spot Welder, Air Operated ..                       | 36  |
| *Spray and Finishing Equipment ..                   | 210 |
| *Spray Gun, New ..                                  | 473 |
| *Spray Test Unit, Salt ..                           | 167 |
| Spreading, Udyllite Process ..                      | 511 |
| *Sprue Cutter, Power ..                             | 349 |
| *Squeezer, The Tabor Post ..                        | 391 |
| *Storage of Acids, Handling and ..                  | 259 |
| *Strip Buffing Machine, New Automatic ..            | 391 |
| *Strip Flasks, Taper ..                             | 127 |
| System, Blower ..                                   | 36  |

**T**

|  |     |
|--|-----|
| *Tabor Post Squeezer, The ..                           | 391 |
| *Tanks as Used in the Plating Industry, Hard Rubber .. | 35  |
| *Tanks, Rectangular Acid ..                            | 259 |
| Taper Strip Flasks ..                                  | 127 |
| *Test Unit, Salt Spray ..                              | 167 |
| *Testing, Core ..                                      | 126 |
| *Testing Plating Solutions ..                          | 260 |
| *Thermopyres ..  | 84  |
| *Threader, Automatic Combination Pointer and ..        | 433 |
| *Tilting Furnace, New ..                               | 33  |
| *Touch-Up Airbrush, New ..                             | 473 |
| Treated Nickel Anodes, Heat ..                         | 37  |
| *Trimmer, Automatic Bolt Head ..                       | 473 |
| *Tumbling Barrel, Sawdust ..                           | 305 |
| *Tumbling Barrels ..                                   | 260 |
| *Turning Crushers ..                                   | 434 |

**U**

|                               |     |
|-------------------------------|-----|
| Udyllite Process Spreading .. | 511 |
| *Unit, Salt Spray Test ..     | 167 |
| *Up Airbrush, New Touch ..    | 473 |
| Uses of Nickel, Principal ..  | 169 |

**W**

|  |     |
|--|-----|
| *Welder, Air Operated Spot ..          | 36  |
| *Welding, Practical Atomic Hydrogen .. | 390 |
| Welding Prize for 1927, Lincoln Arc .. | 306 |
| Wheel, Wood Polishing ..               | 349 |
| *Wire Dipping Baskets ..               | 169 |
| Wood Polishing Wheel ..                | 349 |

**EQUIPMENT—FIRMS****A**

|   |     |
|---|-----|
| Advance Wheel Manufacturing Company, Inc., Chicago, Ill., Wood Polishing Wheel ..                       | 349 |
| Aluminum Bronze Manufacturers' Institute, Washington, D. C., Corrosion Resistance of Aluminum Bronze .. | 306 |
| American Electric Motor Company, Milwaukee, Wis., *Buffing and Polishing Equipment ..                   | 126 |
| American Foundry Equipment Company, Mishawaka, Ind., *Taper Strip Flasks ..                             | 127 |
| American Hard Rubber Company, New York, *Handling and Storage of Acids ..                               | 259 |
| American Hard Rubber Company, New York, *Hard Rubber Tanks as Used in the Plating Industry ..           | 35  |
| American Hard Rubber Company, 11 Mercer Street, New York, *New Hard Rubber Pump ..                      | 168 |
| American Pulverizer Company, St. Louis, Mo., *Turning Crushers ..                                       | 434 |

**B**

|  |     |
|--|-----|
| Bartley Crucible Company, Jonathan, Trenton, N. J., Lawtonite Refractories ..                          | 33  |
| Belke Manufacturing Company, 2952 W. Van Buren Street, Chicago Ill., *Belke Plating Barrel ..          | 82  |
| Belke Manufacturing Company, Chicago, Ill., New Belke Filter ..  | 305 |
| Belke Manufacturing Company, 2952 W. Van Buren Street, Chicago, Ill., *Salt Spray Test Unit ..         | 167 |
| Botfield Refractories Company, Swanson and Clymer Streets, Philadelphia, Pa., *Refractories Exhibit .. | 84  |

|  |     |
|--|-----|
| Botfield Refractories Company, Philadelphia, Pa., *Maintaining Furnace Linings ..        | 213 |
| Bridgeport Brass Company, Bridgeport, Conn., *Automatic Cleaning and Pickling ..         | 474 |
| Bridgeport Safety Emery Wheel Company, Bridgeport, Conn., *Motor Driven Floor Grinder .. | 81  |
| Buffalo Wire Works Company, Inc., Buffalo, N. Y., *Wire Dipping Baskets ..               | 169 |
| Byrd, R. E., Erie, Pa., Small Casting Machine ..   | 435 |

**C**

|  |     |
|--|-----|
| Cincinnati Electrical Tool Co., Cincinnati, Ohio, *Hand Grinder and Buffer ..  | 304 |
| Cincinnati Electrical Tool Company, Cincinnati, Ohio, *New Cincinnati Drill .. | 391 |
| Cleveland Oak Belting Company, Cleveland, Ohio, Re-Conditioning Saves Belts .. | 213 |
| Corse, W. M., 810 18th Street, Washington, D. C., *Durville Pouring Process .. | 211 |

**E**

|   |     |
|---|-----|
| Eager Electric Company, Watertown, N. Y., New Grinder ..                | 349 |
| Electric Products Company, Cleveland, Ohio, *New Motor-Generator Set .. | 348 |
| Espen-Lucas Machine Works, Philadelphia, Pa., *Sawing Machine ..        | 512 |

**F**

|   |     |
|---|-----|
| Federal Electric Company, 8700 S. State Street, Chicago, Ill., New Siren ..         | 210 |
| Federal Electric Company, 8700 South State Street, Chicago, Ill., Electric Siren .. | 304 |
| Fuhrman and Lundberg, 1352 S. Canal Street, Chicago, Ill., *New Solution Filter ..  | 212 |

**G**

|  |     |
|--|-----|
| Gardner Machine Company, Beloit, Wis., *Motor Driven Polishing Lathe ..                      | 306 |
| General Electric Company, Schenectady, N. Y., *New Metal Melting Pot ..                      | 33  |
| General Electric Company, Merchandise Department, Bridgeport, Conn., Paint to Seal Joints .. | 212 |
| General Electric Company, Schenectady, N. Y., *Practical Atomic Hydrogen Welding ..          | 390 |
| General Electric Company, Schenectady, N. Y., *Small Electric Melting Pot ..                 | 433 |
| Gibb Welding Machines Company, Bay City, Mich., *Air Operated Spot Welder ..                 | 36  |

**H**

|  |     |
|--|-----|
| Hanson and Van Winkle Company, Newark, N. J., Heat Treated Nickel Anodes ..                  | 37  |
| Harrison and Company, Haverhill, Mass., Polishing and Buffing Compounds ..                   | 474 |
| Hill-Curtis Company, Kalamazoo, Mich., *New Motor-Driven Lathe ..                            | 36  |
| Hilo Varnish Corporation, Brooklyn, N. Y., Hilo Lacquer ..                                   | 213 |
| Hisey-Wolf Machine Company, Cincinnati, Ohio, *Motor Driven Grinding and Buffing Machines .. | 81  |
| Hoves, Inc., Charles A., Baldwin, L. I., *Soft Metal Furnaces ..                             | 305 |

**I**

|   |     |
|---|-----|
| Ideal Concrete Machinery Company, Cincinnati, Ohio, *New Metal Drying Machine ..          | 34  |
| Ideal Concrete Machinery Company, Cincinnati, Ohio, *Sawdust Tumbling Barrel ..           | 305 |
| Ideal Electric and Manufacturing Company, Mansfield, Ohio, *Electro-Plating Generators .. | 35  |
| International Chemical Company, Philadelphia, Pa., *Cleaner Exhibit ..                    | 349 |
| International Nickel Company, 67 Wall Street, New York, New High Purity Nickel ..         | 34  |
| International Nickel Company, New York, Principal Uses of Nickel ..                       | 169 |

**J**

|   |     |
|---|-----|
| Johnson Gas Appliance Company, Cedar Rapids, Iowa, *Direct Jet Melting Furnace .. | 473 |
|---|-----|

**K**

|   |    |
|---|----|
| Kirk and Blum Manufacturing Company, Cincinnati, Ohio, Blower System .. | 36 |
|---|----|

**L**

|   |     |
|---|-----|
| Le Motte Chemical Products Company, Baltimore, Md., *New Block Comparator ..      | 258 |
| L'Hommedieu and Sons Company, Charles F. Chicago, Ill., *New Plating Conveyor ..  | 258 |
| Lincoln Electric Company, Cleveland, Ohio, *Lincoln Arc Welding Prize for 1927 .. | 306 |
| Lupomatic Tumbling Machine Company, Inc., New York, New Burnishing Barrel ..      | 472 |
| Lupomatic Tumbling Machine Company, Inc., New York, *Tumbling Barrels ..          | 260 |

**M**

|  |     |
|--|-----|
| Macleod Company, Cincinnati, Ohio, *Exhaust Fan ..   | 37  |
| Magnus Chemical Company, Inc., 718 Atlantic Avenue, Brooklyn, N. Y., New Cleaning Compound ..    | 260 |
| Mercell Plating Equipment Company, 1917 Fulton St., Chicago, Ill., *High-Speed Plating Barrel .. | 512 |
| Milwaukee Foundry Equipment Company, Milwaukee, Wis., *Power Molding Machine ..                  | 83  |
| Mitchell Engineering Company, Springfield, Ohio, *New Automatic Strip Buffing Machine ..         | 391 |

|  |    |
|--|----|
| Monarch Engineering and Manufacturing Company, Baltimore, Md., *New Tilting Furnace .. | 33 |
|--|----|

**N**

|  |     |
|--|-----|
| National Steel Products Company, Dayton, Ohio, *Crown Plating Machine .. | 84  |
| New York Brass Foundry, New York, Glazed Crucibles ..                    | 128 |
| Northern Blower Company, Cleveland, Ohio, *Cloth Screen Dust Arrestor .. | 211 |
| Nedco Machine Company, Boston, Mass., *Polishing and Sanding Machine ..  | 512 |

**O**

|   |     |
|---|-----|
| Oil and Waste Saving Machine Company, Philadelphia, Pa., Centrifugal Machines ..    | 212 |
| Gsborn Manufacturing Company, Cleveland, Ohio, *Molding Small Intricate Castings .. | 83  |

**P**

|  |     |
|--|-----|
| Paasche Airbrush Company, Chicago, Ill., *New Touch-Up Airbrush ..         | 473 |
| Pangborn Corporation, Hagerstown, Md., *Sand Blast Equipment ..            | 36  |
| Production Equipment Company, 5213 Windsor Avenue, Cleveland, Ohio ..      | 434 |
| Pyrene Manufacturing Company, Newark, N. J., *Hand Pump Extinguisher ..    | 212 |
| Pyrometer Instrument Company, 74 Reade Street, New York, *New Pyrometer .. | 82  |

**R**

|  |     |
|--|-----|
| Roxalin Flexible Lacquer Company, Long Island City, N. Y., Permanent Flexible Lacquer .. | 259 |
| Ruemelin Manufacturing Company, Minneapolis, Minn., *Dust Arrestor ..                    | 34  |

**S**

|  |     |
|--|-----|
| Smith, Richardson Company, Attleboro, Mass., *New Burnishing Barrel ..               | 260 |
| Specialty Manufacturing Company, Berea Road, Cleveland, Ohio, *New Circular Brush .. | 168 |
| Spraco Painting Equipment Company, Boston, Mass., *New Spray Gun ..                  | 473 |
| Standard Electrical Tool Company, Cincinnati, Ohio, *Heavy-Duty Grinder ..           | 433 |
| State Manufacturing Company, Chicago, Ill., *Testing Plating Solutions ..            | 260 |
| Stevens, Inc., Frederic B., Detroit, Mich., *New Automatic Plating Machine ..        | 125 |
| Stevens, Inc., Frederic B., Detroit, Mich., *New Plating Barrel ..                   | 348 |
| Stirlen Company, The, 70 College Avenue, New Haven, Conn., *The Nickelometer ..      | 511 |

**T**

|   |     |
|---|-----|
| Tabor Manufacturing Company, Philadelphia, Pa., *The Tabor Post Squeezer .. | 391 |
| Taylor Instrument Companies, Rochester, N. Y., *Thermopyres ..              | 84  |
| Tessmer Machine and Tool Company, Detroit, Mich., *Pneumatic Shaker ..      | 83  |
| Tessmer Machine and Tool Company, Detroit, Mich., *Power Sprue Cutter ..    | 349 |
| Trent Company, Harold E., Philadelphia, Pa., *Electric Melting Pot ..       | 127 |
| Trent Company, Harold E., Philadelphia, Pa., *Electric Melting Pot ..       | 305 |

**U**

|  |     |
|--|-----|
| Udyllite Process Company, Detroit, Mich., Udyllite Process Spreading ..  | 511 |
| United Chromium, Inc., 30 E. 42nd St., New York, Chromium Plating Industry to Receive Benefit of Organized Research and Development .. | 472 |
| United Oil Manufacturing Company, Erie, Pa., Ground Key Lubricant ..   | 125 |
| United States Electrical Tool Company, Cincinnati, Ohio, *Selective Speed Buffing and Polishing Machines ..                            | 210 |
| U. S. Industrial Engineering Company, Inc., 505 Union Building, Cleveland, Ohio, Metal Melting Furnace ..                              | 84  |
| U. S. Stoneware Company, Akron, Ohio, *Laboratory Sink ..  | 168 |
| U. S. Stoneware Company, Akron, Ohio, *Rectangular Acid Tanks ..   | 259 |

**W**

|  |     |
|--|-----|
| Wadsworth Core & Machine and Equipment Company, Akron, Ohio, *Core Testing ..                                  | 126 |
| Waterbury Farrel Foundry and Machine Company, Waterbury, Conn., *Automatic Bold Head Trimmer ..                | 473 |
| Waterbury Farrel Foundry and Machine Company, Waterbury, Conn., *Automatic Combination Pointer and Threader .. | 433 |
| Waterbury Farrel Foundry and Machine Company, Waterbury, Conn., *Four-Post Blanking Presses ..                 | 391 |
| Waterbury Farrel Foundry and Machine Company, Waterbury, Conn., *New Draw Bench ..                             | 259 |
| Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., *New Floodlight Projector ..            | 304 |
| Willard C. Beach Air Brush Company, Harrison, N. J., *Spray and Finishing Equipment ..                         | 210 |
| Worthington Pump & Machinery Corporation, New York, *Automatically Controlled Motor-Driven Air Compressor ..   | 127 |

**Z**

|   |     |
|---|-----|
| Zucker's Sons' Company, Inc., Elizabeth, N. J., *Metal Polishing .. | 167 |
|---|-----|



